**Review of the Project Group:**

**Group Code: 43** (EPR)

**Full title:** European Pressurized Reactor EPR)

|  |  |  |
| --- | --- | --- |
| Intended learning outcome  (ILO) | Grade  (0-3) | Explanation for the grading of the evidence of achieving respective ILO.  Suggestions for improvements and other comments |
| 1. *Collect information on* General design specification of the nuclear power plant with selected reactor type (Task 1, ILO1, ILO2) | 3 | The information provided for Task 1 was more than adequate; the authors displayed a solid grasp of the fundamental principles of EPR design and even went well beyond by providing information on the layout of the plant.  In my opinion, ILO1 and ILO2 were achieved in this task.  To improve on the report in this task, the minor syntax remarks made in the report could be addressed. And if for any reason the authors are interested in condensing the report, they could focus only on the unique design features. |
| 2. *Describe* Operational principles of the power plant. (Task 2, ILO1, ILO2) | 2 | The information provided for Task 2 was adequate, and the authors demonstrated a good understanding of the operational principles and control schemes of EPR design. However, the authors failed to mention the base load and load following scenarios used in EPR.  In my opinion, ILO1 and ILO2 were mostly achieved in this task.  Two minor syntax comments given in the report could be resolved to improve the report in this task. And, if there are any load scenarios utilized in EPR, the authors should indicate them in the report to ensure that the task is completed fully. |
| 3. *Explain* Safety features of the power plant. (Task 3, ILO1, ILO2) | 3 | The information provided for Task 3 was sufficient, and the authors demonstrated a good understanding of the safety features of EPR design. Although the report mentioned that the EPR design meets regulations for core damage and large release frequency, other results of reactor safety analysis were missing in this task.  In my opinion, ILO1 and ILO2 were achieved in this task.  The suggestions on minor syntax stated in the report could be addressed to improve the report in this task. And, in addition to the core damage and large release frequency mentioned in the report, the authors could include other EPR safety analysis results, if there are any worth discussing. |
| 4. *Calculate* Selected core parameters (Task 4, ILO3) | 3 | The information provided for Task 4 is sufficient, and it is evident that the authors have critically evaluated the approach used to calculate the reactor parameters and established reasonable assumptions for their calculations. The results were presented tastefully and supported by sufficient explanations.  In my opinion, ILO3 was achieved in this task.  Besides addressing a few comments in Task 4, the equation (Eq. 18) used in calculating the acceleration pressure drop should be verified. |
| 5. *Calculate* CHF margins in a hot channel (Task 5, ILO4a) | 3 | The results and discussion for Task 5 were excellent, and in my perspective, ILO4a was entirely met in this task. |
| 6. *Calculate* Maximum cladding and fuel pellet temperature (Task 6, ILO4b) | 3 | The results of Task 6 were sufficient and in my opinion, ILO4b was achieved in this task. |